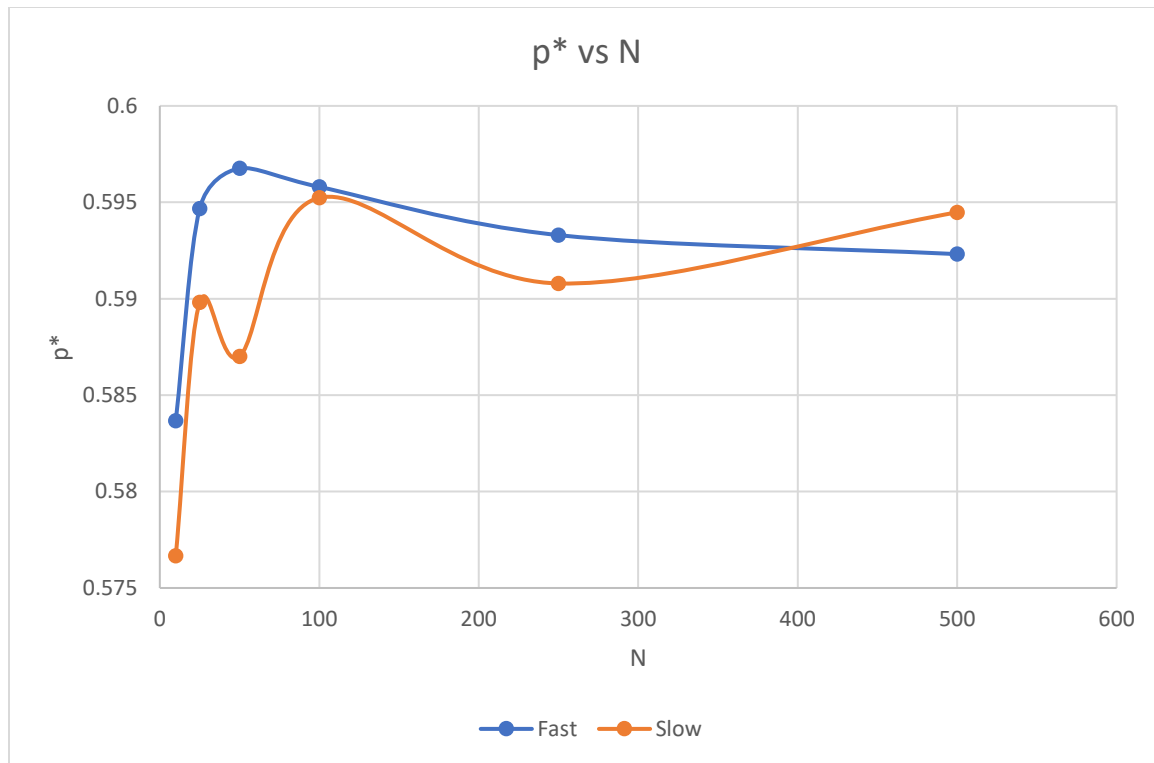


The QuickUnionUF implementation (**slow**) clearly grows at a faster rate than the WeightedQuickUnionUF (**fast**). As the size of the grid grows, both seem to grow exponentially, but at around  $N=150$ , the QuickUnionUF implementation branches off and begins to require more time to complete the percolation algorithm.



Both the **fast** and **slow** implementations have  $p^*$  closer to 0.58. As the size of the grid increased ( $N=500$ ), the  $p^*$  for both hovered toward 0.595. While the graph looks like both implementations had a major spike at  $N = 50$ , the spike is actually very small because the y-axis starts at 0.575 instead of 0, thus exaggerating the effect.